GULF STREET SUBSTATION

5 GULF STREET
CONCORD, NEW HAMPSHIRE

GENERAL INFORMATION

OWNER
MAP 27 BLOCK A1 LOT 8
UNITIL ENERGY SYSTEMS, LLC
6 LIBERTY LANE W
HAMPTON, NH 03842-1704

APPLICANT
MAP 27 BLOCK A1 LOT 8
UNITIL ENERGY SYSTEMS, LLC
C/O NATE SHERWOOD
6 LIBERTY LANE W
HAMPTON, NH 03842-1704

PREPARED FOR
MAP 27 BLOCK A1 LOT 8
UNITIL ENERGY SYSTEMS, LLC
6 LIBERTY LANE W
HAMPTON, NH 03842-1704

RESOURCE LIST

PLANNING/ZONING DEPARTMENT
41 GREEN STREET
CONCORD, NH 03301
603-225-8515
HEATHER SHANK, CITY PLANNER

BUILDING DEPARTMENT
37 GREEN STREET
CONCORD, NH 03301
603-225-8580
DARIO CARRARA, CHIEF BUILDING INSPECTOR

PUBLIC WORKS
311 NORTH STATE STREET
CONCORD, NH 03301
603-228-2737

POLICE DEPARTMENT
35 GREEN STREET
CONCORD, NH 03301
603-225-8600
BRADLEY OSGOOD, CHIEF OF POLICE

FIRE DEPARTMENT
24 HORSESHOES POND LANE
CONCORD, NH 03301
603-225-8650
DANIEL ANDRUS, FIRE CHIEF

ELECTRIC
UNITIL ENERGY SYSTEMS, LLC
8 LIBERTY LANE W
HAMPTON, NH 03842-1704

WASTEWATER
125 HALL STREET
CONCORD, NH 03301
603-225-8691

GAS
LIBERTY UTILITIES
116 NORTH MAIN STREET
CONCORD, NH 03301
800-833-4200

ABUTTERS
MAP 27 BLOCK A1 LOT 5
STATE OF NH
C/O DEPT OF TRANSPORTATION ROW
PO BOX 483
CONCORD, NH 03302-0483

MAP 27 BLOCK 1 LOT 1
STATE OF NH
C/O DEPT OF TRANSPORTATION ROW
PO BOX 483
CONCORD, NH 03302-0483

MAP 27 BLOCK 1 LOT 2
CAPITAL HOTEL CO LLC
C/O FOXFIRE PROPERTY MANAGEMENT INC.
PO BOX 1438
CONCORD, NH 03302-1438

MAP 35/B1/1
BRIXMOR CAPITAL SC LLC
450 LEXINGTON AVE FL13
NEW YORK, NY 10017-3956

MAP 45/A1/2
PFP ASSOCIATES LTD PARTNERSHIP
56 KEARNEY RD #FL1
NEEDHAM HEIGHTS, MA
02494-2507

BOSTON & MAINE CORP
C/O PAN AM RAILWAYS INC.
1700 IRON HORSE PARK
NORTH BILLERICA, MA 01862-1641

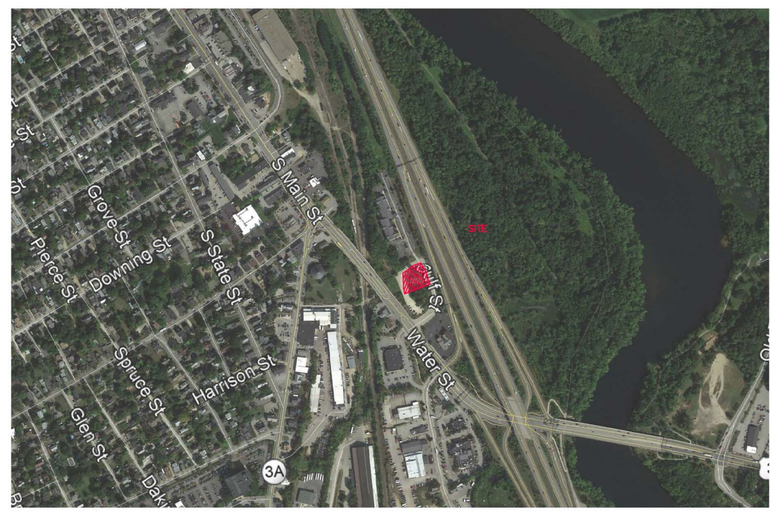
INDEX OF SHEETS

SHEET	SHEET TITLE
C-01	COVER
C-02	NOTES & LEGEND
C-03	NOTES
S-01	EXISTING CONDITIONS PLAN
C-04	SITE PREPARATION & DEMOLITION PLAN
C-05	SITE LAYOUT & LANDSCAPE PLAN
C-06	GRADING & DRAINAGE & UTILITY PLAN
C-07	ACCESS DRIVE PLAN & PROFILE
C-08	STORMWATER MANAGEMENT PLAN
C-09	DETAILS
C-10	DETAILS
C-11	DETAILS
C-12	DETAILS
C-13	DETAILS

PERMITS/APPROVALS

	NUMBER	APPROVED	EXPIRES
CITY SITE PLAN REVIEW			
CITY OF CONCORD CUP			

VICINITY PLAN



HORIZONTAL SCALE 1"=500'
500 250 0 500

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Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

Unitil

SITE DEVELOPMENT PLANS

TAX MAP 27, BLOCK A1, LOT 8
COVER
GULF STREET SUBSTATION
5 GULF STREET, CONCORD, NH
OWNED BY/PREPARED FOR
UNITIL ENERGY SYSTEMS, INC.
6 LIBERTY LANE, HAMPTON, NH

SCALE: NTS **SEPTEMBER 18, 2019**

STATE OF NEW HAMPSHIRE
NICHOLAS C. GOLON
No. 14086
LICENSED
PROFESSIONAL ENGINEER
9/18/19

APPROVED
UNDER THE PROVISIONS OF R.S.A. 674:35 & R.S.A. 674:36
CITY PLANNING BOARD
CITY OF CONCORD, NEW HAMPSHIRE
in accordance with vote of the board dated:

Approval of this plan is limited to the lots as shown

Chair Clerk

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CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

REV.	DATE	DESCRIPTION	DR	CK

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Fax (603) 472-9747
www.tfmoran.com

FILE	DR	JB	FB	–	C-01
95945-01	CK	NG	CADFILE	95945-01 DESIGN_LAYOUT – SS	

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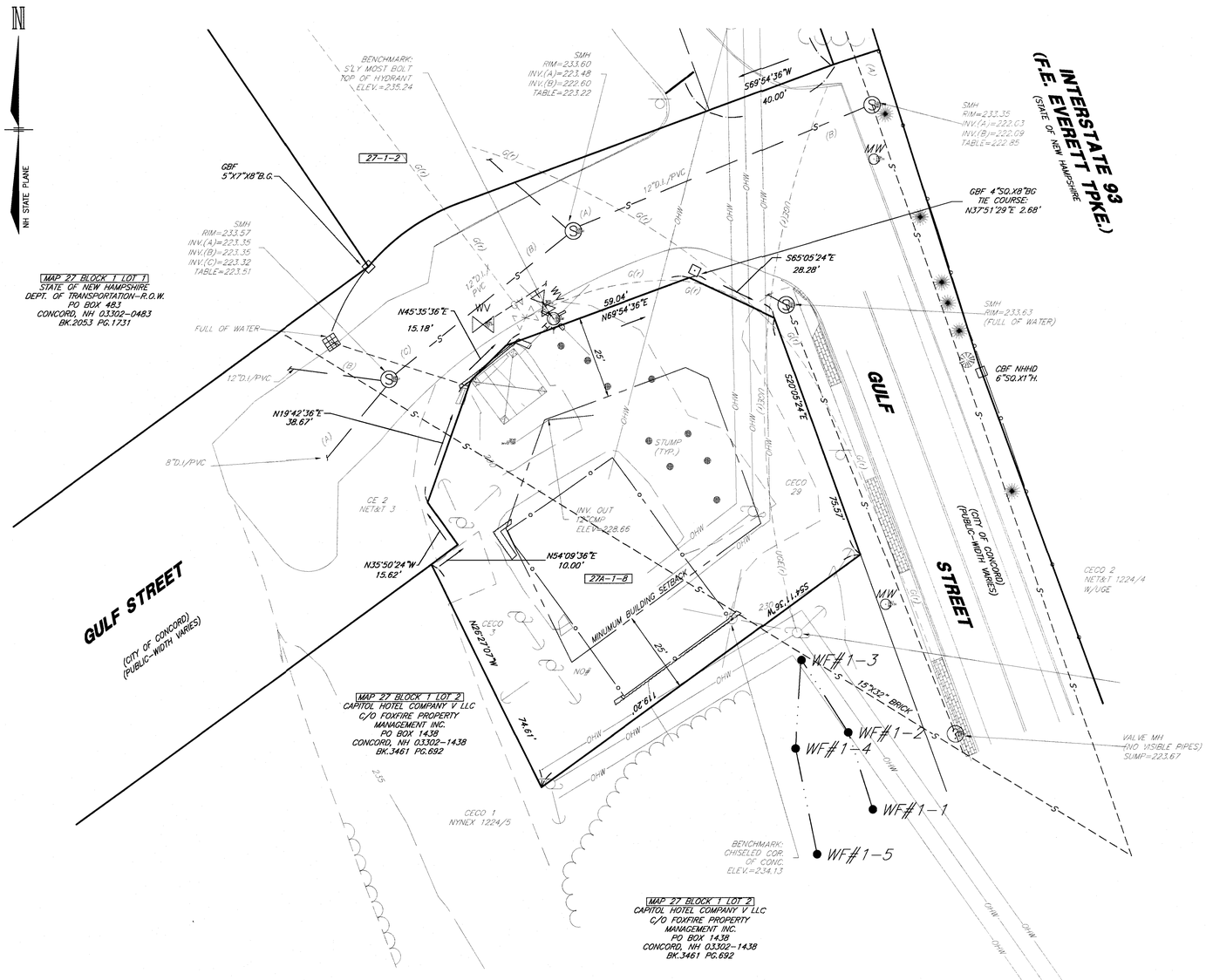

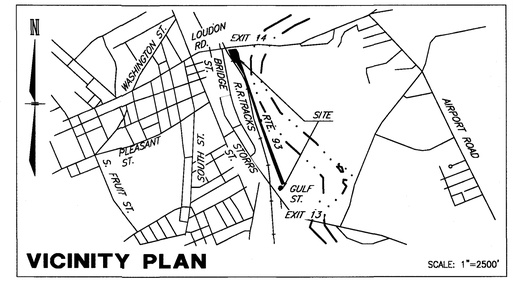

VICINITY PLAN

SCALE: 1"=2500'

REFERENCE PLANS:

1. RE-SUBDIVISION AND BOUNDARY SURVEY ONLY FOR P.F.P CONCORD INC. BRIDGE ST. CONCORD N.H. BY RICHARD D. BARTLETT L.L.S. M.C.R.D. PLAN #8150.
2. STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DESIGN RIGHT-OF-WAY PLAN RIST-FROST SHUMWAY FEDERAL PROJECT NO. STP-X-5099(019) STATE PROJECT NO. 10021-A.
3. THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION PLAN OF PROPOSED FEDERAL AID RIGHT-OF-WAY PROJECT STP-BRF-017-1(11) N.H. PROJECT NO. C-3311 STP-IR-93-1(186) 37 N.H. PROJECT NO. P-4191. M.C.R.D. PLAN #16096.
4. STATE OF NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS PLANS OF PROPOSED FEDERAL AID PROJECT I-93-2 (56) 39 CONTRACT NO. 1 N.H. PROJECT NO. P-7002-A.
5. STATE OF NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS PLANS OF PROPOSED FEDERAL AID PROJECT I-93-2 (56) 39 CONTRACT NO. 2 N.H. PROJECT NO. P-7002-A.
6. EXISTING CONDITIONS PLAN MARRIOTT FAIRFIELD INN CONCORD, NH 1-13-97 REVISED 2-4-97 BY HOLDEN ENGINEERING & SURVEYING, INC. NOT RECORDED.
7. PROPOSED GULF ROAD ROW WIDENING FIVE TRACTS 26 AUG. 1953 BY E.N. ROBERTS. NOT RECORDED.
8. CITY OF CONCORD PLAN 86A OF GULF STREET.

NOTES

1. OWNER OF RECORD OF LOT 27-A1-8 IS UNITIL ENERGY SERVICES INC
   6 LIBERTY LN W, HAMPTON, NH 03842-1704
   PROPERTY ADDRESS: 5 GULF STREET
   ZONED GWP

   DEED REFERENCE TO PARCEL IS BK. 494 PG. 419 AND BK. 725 PG. 23 IN THE MCRD.
   AREA = 12,484 SF+/- or 0.2866 Acres +/-.
2. 27-A1-8 INDICATES TAX MAP, BLOCK AND LOT NUMBER.
3. THE PURPOSE OF THIS PLAN IS TO SHOW THE RESULTS OF A BOUNDARY AND EXISTING CONDITIONS SURVEY OF THE UNITIL TRANSMISSION RIGHT-OF-WAY FROM THE GULF STREET SUBSTATION TO THE LOUDON ROAD SUBSTATION.
4. CURRENT ZONING IS GWP GATEWAY PERFORMANCE DISTRICT
   MIN. LOT SIZE N/A, BUILDABLE LAND N/A
   MIN FRONTAGE 300'
   MAX HEIGHT 45'
   MIN. BUILDING SETBACKS ARE 25' FRONT, 25' REAR, 25' SIDE
   MAX LOT COVERAGE 85%

   CURRENT ZONING IS OCP OPPORTUNITY CORRIDOR PERFORMANCE DISTRICT
   MIN. LOT SIZE N/A BUILDABLE LAND N/A
   MIN FRONTAGE 150'
   MAX HEIGHT 45'
   MIN. BUILDING SETBACKS ARE 15' FRONT, 15' REAR, 15' SIDE
   MAX LOT COVERAGE 85%
5. BENCHMARK USED: NHCO CORS BASE STATION
   VERTICAL DATUM: NAVD 88 (CORS)
   BENCHMARKS SET: AS NOTED
6. HORIZONTAL COORDINATES: PROJECTION: NH STATE PLANE
   HORIZONTAL DATUM: NAD 83
7. EASEMENTS, RIGHTS AND RESTRICTIONS:

   EASEMENTS, RIGHTS AND RESTICTIONS SHOWN OR IDENTIFIED ARE THOSE WHICH WERE FOUND DURING RESEARCH PERFORMED AT THE MERRIMACK COUNTY REGISTRY OF DEEDS. OTHER EASEMENTS, RIGHTS OR RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF THE SUBJECT PARCELS WOULD DETERMINE.
8. THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. TFMORAN INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UNDERGROUND UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG-SAFE AT 811.

40 20 10 0 40

Graphic Scale

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UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

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WETLANDS CERTIFICATION:

JURISDICTIONAL WETLANDS SHOWN ON THIS PLAN WERE DELINEATED IN MAY, 2019 BY CHRISTOPHER K. DANFORTH CWS #077. THE WETLANDS WERE DELINEATED ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (1987) AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2, JANUARY 2012. DOMINANT HYDRIC SOILS WITHIN THE WETLAND(S) WERE IDENTIFIED USING "FIELD INDICATORS OF HYDRIC SOILS OF THE UNITIED STATES" A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, NRCS, VERSION 8.1, 2017. DOMINANCE OF HYDROPHYTIC VEGETATION WAS DETERMINED USING THE USACE NATIONAL WETLAND PLANT LIST, NWPL 2016 VERSION 3.3 HTTP://WETLAND_PLANTS.USACE.ARMY.MIL.

STATE OF NEW HAMPSHIRE
CHRISTOPHER K. DANFORTH
No. 077
CERTIFIED WETLAND SCIENTIST

I HEREBY CERTIFY THAT THIS SURVEY AND PLAT WERE PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE ON THE GROUND AND HAS AN ERROR OF CLOSURE OF GREATER ACCURACY THAN ONE PART IN TEN THOUSAND (1:10,000).

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN. (RSA 676:18-III)

STATE OF NEW HAMPSHIRE
LICENSED LAND SURVEYOR
No. 928
JAMES M. O'NEIL

REV.	DATE	DESCRIPTION	DR	CK

TAX MAP 27, BLOCK 1, LOT 8
TAX MAP 27A, BLOCK 1, LOT 2
TAX MAP 45A, BLOCK 1, LOT 2

EXISTING CONDITIONS PLAN

UNITIL - LOUDON ROAD TO GULF STREET

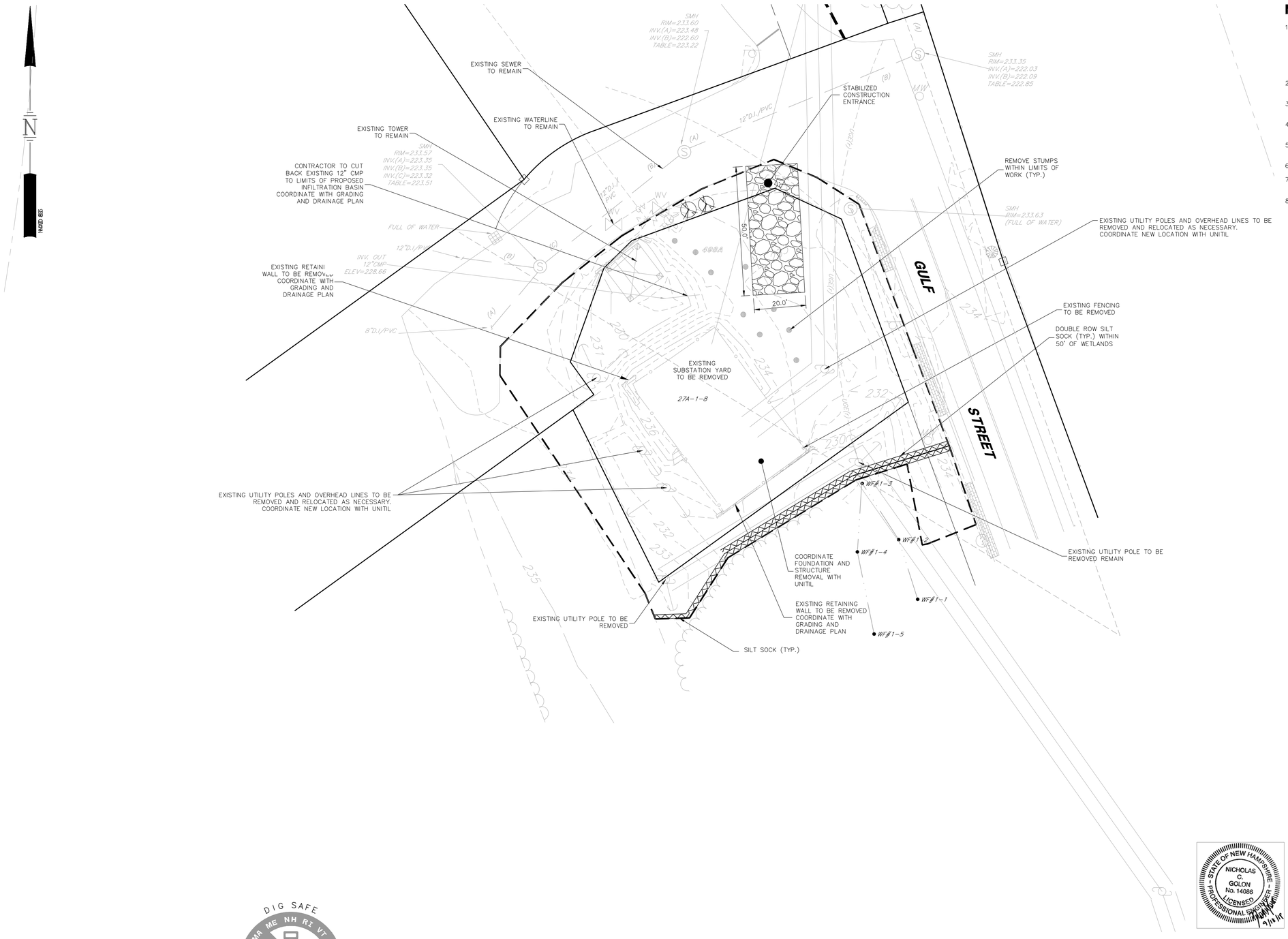
PREPARED FOR

UNITIL ENERGY SYSTEMS, INC.

SCALE: 1"=20' **JUNE 20, 2009**

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

FILE	DR	XX	FB	2095 & 2096	SHEET 6 OF 6
95945.00	CK	JMO	CADFILE	95945-00 Survey	



NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATIONS, SIZE, AND ELEVATIONS OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS PRIOR TO THE START OF ANY DEMOLITION. THE LOCATIONS SHOWN ON THESE PLANS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED DEMOLITION TO DETERMINE APPROPRIATE ACTION TO BE TAKEN BEFORE PROCEEDING WITH THE WORK. IT IS ALSO THE CONTRACTOR'S RESPONSIBILITY TO ANTICIPATE CONFLICTS AND REPAIR EXISTING UTILITIES AS NECESSARY TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
2. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY WORK AT ALL TIMES.
3. THE CONTRACTOR SHALL VERIFY ALL SURVEY INFORMATION IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO THE START OF CONSTRUCTION.
4. EXISTING UTILITY SERVICES TO BE DISCONTINUED ARE TO BE CAPPED AS REQUIRED BY THE RESPECTIVE UTILITY COMPANIES.
5. CONSTRUCTION DEBRIS AND INVASIVE SPECIES SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A LEGAL MANNER.
6. CONTACT THE OWNER IMMEDIATELY IF ANY TREES ARE DAMAGED DURING CONSTRUCTION.
7. CONTRACTOR TO INSTALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO ANY SITE WORK. MEASURES SHOWN IN THIS PLAN SET ARE ONLY TO BE USED AS A GUIDE.
8. EXISTING ELECTRICAL STRUCTURE/UTILITY POLE RELOCATION AND REMOVAL SHALL BE COORDINATED WITH THE OWNER.

Unitil

SITE DEVELOPMENT PLANS

TAX MAP 27, BLOCK A1, LOT 8

SITE PREPARATION & DEMOLITION PLAN

GULF STREET SUBSTATION

5 GULF STREET, CONCORD, NH

OWNED BY/PREPARED FOR

UNITIL ENERGY SYSTEMS, INC.

6 LIBERTY LANE, HAMPTON, NH

STATE OF NEW HAMPSHIRE NICHOLAS C. GOLON No. 14086 LICENSED PROFESSIONAL ENGINEER 9/18/19

SCALE: 1"=20' (22"X34") **SEPTEMBER 18, 2019**

HORIZONTAL SCALE 1"=20'
20 10 0 20

REV.	DATE	DESCRIPTION	DR	CK

TFM
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

DWG.	95945-01	DR	JB	FB	–	C-04
		CK	JB	CADFILE	95945-01 DESIGN_LAYOUT – SS	

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CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

Sep 18, 2019 - 2:25pm
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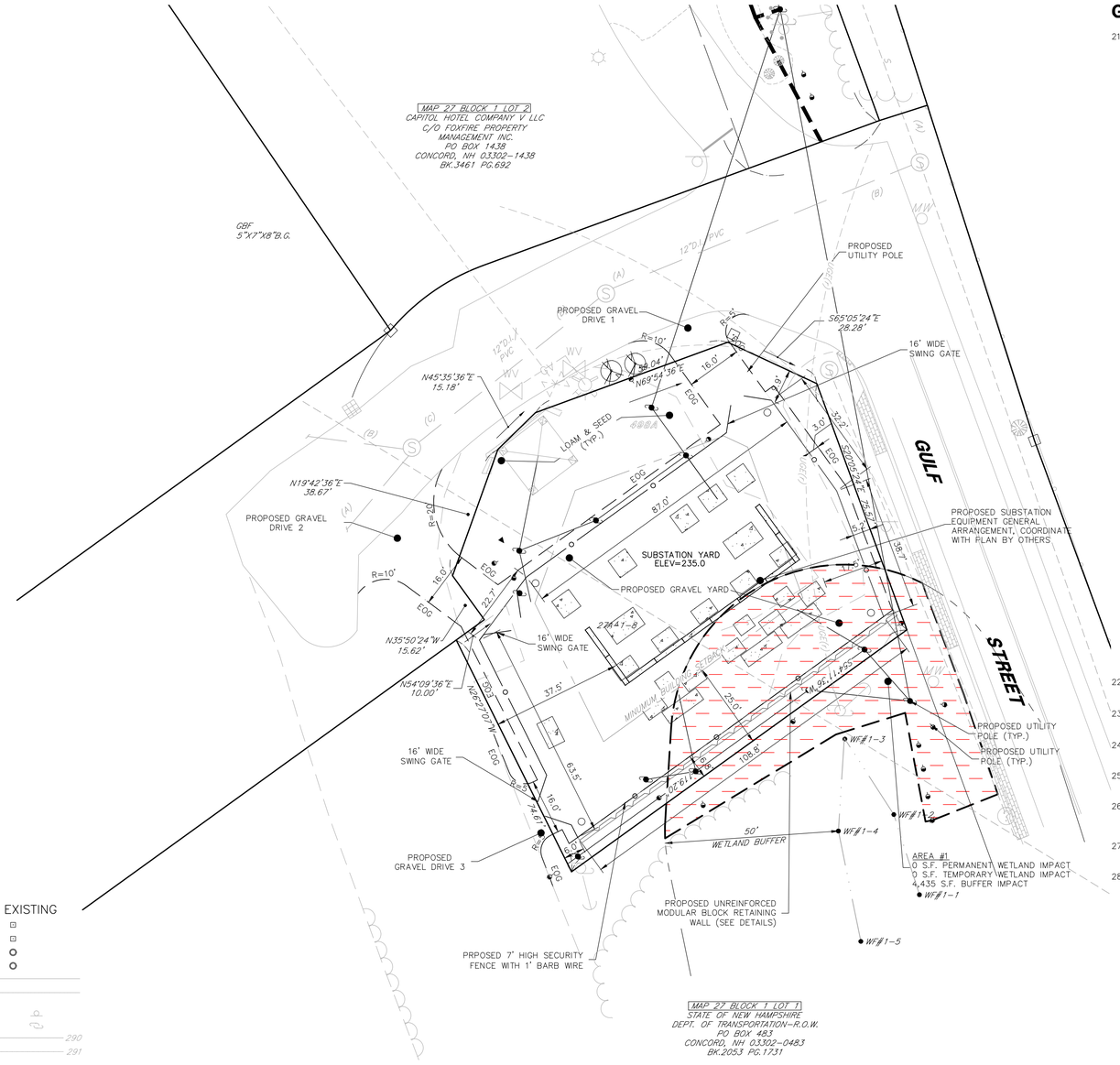

LEGEND

	EXISTING
CONCRETE BOUND	
STONE BOUND	
IRON PIPE	
IRON ROD	
EDGE OF PAVEMENT	
EDGE OF GRAVEL	
CHAIN LINK FENCE	
UTILITY POLE	
INDEX CONTOUR	290
INTERMEDIATE CONTOUR	291
TREELINE	
TREES	

GENERAL NOTES CONT'D

21. CONTRACTOR'S GENERAL RESPONSIBILITIES:

A. BID AND PERFORM THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL CODES, SPECIFICATIONS, REGULATIONS, AND STANDARDS.

B. NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCIES OF PROPOSED LAYOUT AND/OR EXISTING FEATURES.

C. EMPLOY A LICENSED SURVEYOR TO DETERMINE ALL LINES AND GRADES AND LAYOUT OF SITE ELEMENTS AND BUILDINGS.

D. THE CONTRACTOR SHALL BE RESPONSIBLE TO BECOME FAMILIAR WITH THE SITE AND ALL SURROUNDING CONDITIONS. THE CONTRACTOR SHALL ADVISE THE APPROPRIATE AUTHORITY OF INTENTIONS AT LEAST 48 HOURS IN ADVANCE.

E. TAKE APPROPRIATE MEASURES TO REDUCE, TO THE FULLEST EXTENT POSSIBLE, NOISE, DUST AND UNSIGHTLY DEBRIS.

F. MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY WORK AT ALL TIMES.

G. IN ACCORDANCE WITH RSA 430:53 AND AGR 3800, THE CONTRACTOR SHALL NOT TRANSPORT INVASIVE SPECIES OFF THE PROPERTY, AND SHALL DISPOSE OF INVASIVE SPECIES ON-SITE IN A LEGAL MANNER.

H. COORDINATE WITH ALL UTILITY COMPANIES AND CONTACT DIGSAFE (811 OR 888-344-7233) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION.

I. PROTECT NEW AND EXISTING BURIED UTILITIES DURING INSTALLATION OF ALL SITE ELEMENTS. DAMAGED UTILITIES SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.

J. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY TFMORAN, INC., DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS, OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR OR ENGINEER HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE US OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.

K. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATIONS.

L. VERIFY LAYOUT OF PROPOSED FOUNDATIONS WITH ELECTRICAL DRAWINGS AND THAT PROPOSED FOUNDATION MEETS PROPERTY LINE SETBACKS PRIOR TO COMMENCING ANY FOUNDATION CONSTRUCTION.

M. IF ANY DEVIATIONS FROM THE APPROVED PLANS AND SPECIFICATIONS HAVE BEEN MADE, THE SITE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS STAMPED BY A LICENSED SURVEYOR OR QUALIFIED ENGINEER ALONG WITH A LETTER STAMPED BY A QUALIFIED ENGINEER DESCRIBING ALL SUCH DEVIATIONS, AND BEAR ALL COSTS FOR PREPARING AND FILING ANY NEW PERMITS OR PERMIT AMENDMENTS THAT MAY BE REQUIRED.

N. AT COMPLETION OF CONSTRUCTION, THE SITE CONTRACTOR SHALL PROVIDE A LETTER CERTIFYING THAT THE PROJECT WAS COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, AND A LETTER STAMPED BY A QUALIFIED ENGINEER THAT THEY HAVE OBSERVED ALL UNDERGROUND DETENTION SYSTEMS, INFILTRATION SYSTEMS, OR FILTERING SYSTEMS PRIOR TO BACKFILL, AND THAT SUCH SYSTEMS CONFORM TO THE APPROVED PLANS AND SPECIFICATIONS.

22. FINAL POLE LOCATIONS TO BE CONFIRMED BY LOCAL UTILITY THROUGH TYPICAL POLE LICENSING PROCESS WITH THE CITY OF CONCORD.

23. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF CONCORD'S CONSTRUCTION STANDARDS AND DETAILS, 2016 EDITION.

24. ALL UTILITIES SHALL BE INSTALLED UNDERGROUND IN ACCORDANCE WITH SECTION 25.02(1) OF THE SITE PLAN REGULATIONS.

25. UPON COMPLETION OF CONSTRUCTION THE CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS TO THE ENGINEERING SERVICES DIVISION.

26. THE CONTRACTOR SHALL SET UP A PRECONSTRUCTION MEETING WITH THE ENGINEERING SERVICES DIVISION TO DISCUSS CONSTRUCTION REQUIREMENTS, SITE INSPECTIONS, ASSOCIATED FEES, SCHEDULES, ETC.

27. THE CONTRACTOR SHALL OBTAIN A DEMOLITION PERMIT FROM THE CODE ADMINISTRATION DIVISION FOR REMOVAL OF THE EXISTING SUBSTATION YARD.

28. THE CONTRACTOR SHALL OBTAIN AND EXCAVATION PERMIT FROM THE ENGINEERING SERVICES DIVISION FOR WORK WITHIN THE RIGHT OF WAY.

NOTES

1. OWNER OF RECORD OF MAP 27 BLOCK A1 LOT 8: UNITIL ENERGY SERVICES INC., 6 LIBERTY LANE W, HAMPTON, NH 03842-1704
DEED REFERNCE TO PARCEL IS BK 725 PG 23
AREA OF PARCEL = 0.28± ACRES

2. ZONED: GATEWAY PERFORMANCE DISTRICT (GPD)
EXISTING USE: ELECTRIC SUBSTATION (ESSENTIAL PUBLIC UTILITIES AND APPURTENANCES)
PROPOSED USE: ELECTRIC SUBSTATION (ESSENTIAL PUBLIC UTILITIES AND APPURTENANCES)

3. THE PURPOSE OF THIS PLAN IS TO CONSTRUCT TO SHOW PROPOSED IMPROVEMENTS FOR THE GULF STREET SUBSTATION.

4. DIMENSIONAL REQUIREMENTS (CURRENT ZONING)

	REQUIRED:	PROVIDED:
MINIMUM LOT DIMENSIONS:		
LOT AREA	N/A	0.28± AC
LOT FRONTAGE	150 FT	>150 FT
MINIMUM SETBACKS/BUFFER:		
BUILDING FRONT	25 FT	N/A
BUILDING SIDE	25 FT	N/A
BUILDING REAR	25 FT	N/A
MAXIMUM LOT COVERAGE	85%	75%

5. PARKING CALCULATIONS

REQUIRED: TABLE 27-8-2(E) OF THE ZONING ORDINANCE DOES NOT ESTABLISH A VALUE FOR REQUIRED PARKING AT AN ELECTRICAL SUBSTATION.

PROPOSED: AS THE SUBSTATION USE REQUIRES NO DEDICATED PARKING, NONE HAS BEEN SPECIFICALLY DEDICATED. PARKING FOR UNITIL SERVICE TECHNICIANS IS PROVIDED INSIDE THE YARD.

GENERAL NOTES

6. THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. TFMORAN, INC. ASSUMES NO LIABILITY AS A RESULT OF ANY CHANGES OR NON-CONFORMANCE WITH THESE PLANS EXCEPT UPON THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD.

7. ALL IMPROVEMENTS SHOWN ON THE SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER.

8. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE CITY OF CONCORD, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. ALL WORK TO CONFORM TO CITY OF CONCORD DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS. ALL WORK WITHIN THE RIGHT-OF-WAY OF THE CITY AND/OR STATE SHALL COMPLY WITH APPLICABLE STANDARDS. COORDINATE ALL WORK WITHIN THE RIGHT-OF-WAY WITH APPROPRIATE CITY, COUNTY, AND/OR STATE AGENCY.

9. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION. VERIFY TBM ELEVATIONS PRIOR TO CONSTRUCTION.

10. CONTACT EASEMENT OWNERS PRIOR TO COMMENCING ANY WORK WITHIN THE EASEMENTS.

11. PRIOR TO COMMENCING ANY SITE WORK ALL LIMITS OF WORK SHALL BE CLEARLY MARKED IN THE FIELD.

12. SITE WORK SHALL BE CONSTRUCTED FROM A COMPLETE SET OF PLANS, NOT ALL FEATURES ARE DETAILED ON EVERY PLAN. THE ENGINEER IS TO BE NOTIFIED OF ANY CONFLICT WITHIN THIS PLAN SET.

13. TFMORAN, INC. ASSUMES NO LIABILITY FOR WORK PERFORMED WITHOUT AN ACCEPTABLE PROGRAM OF TESTING AND INSPECTION AS APPROVED BY THE ENGINEER OF RECORD.

14. ALL DEMOLITION SHALL INSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKWAYS, AND ANY OTHER ADJACENT OPERATING FACILITIES. PRIOR WRITTEN PERMISSION FROM THE OWNER/DEVELOPER AND LOCAL PERMITTING AUTHORITY IS REQUIRED IF CLOSURE/OBSTRUCTIONS TO ROADS, STREET, WALKWAYS, AND OTHERS IS DEEMED NECESSARY. CONTRACTOR TO PROVIDE ALTERNATE ROUTES AROUND CLOSURES/OBSTRUCTIONS PER LOCAL/STATE/FEDERAL REGULATIONS.

15. REFER TO ELECTRICAL PLANS FOR LAYOUT OF FOUNDATIONS AND CONCRETE ELEMENTS DO NOT USE SITE PLANS FOR LAYOUT OF FOUNDATIONS.

16. IN THE EVENT OF A CONFLICT BETWEEN PLANS, SPECIFICATIONS, AND DETAILS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.

17. IF CONDITIONS AT THE SITE ARE DIFFERENT THAN SHOWN ON THE PLANS, THE ENGINEER SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH THE AFFECTED WORK.

18. LIGHTING, SIGNAGE, LANDSCAPING, AND SCREENING SHALL MEET THE REQUIREMENTS OF THE CITY OF CONCORD ZONING ORDINANCE AND SITE PLAN REGULATIONS.

19. SNOW SHALL NOT BE STOCKPILED IN STORMWATER BMP'S, WETLANDS BUFFERS, OR WETLANDS. SEE SNOW STORAGE LOCATIONS IN THE VENT THAT SNOW STORAGE AREAS PROVIDED ON SITE ARE COMPLETELY UTILIZED, EXCESS SNOW SHALL BE TRANSPORTED OFF SITE FOR DISPOSAL IN ACCORDANCE WITH NHDES REGULATION. IF SNOW IS STORED WITHIN PARKING AREA, KEEP CATCH BASINS CLEAR.

20. ALL PROPOSED FENCING SHALL BE GROUNDED IN ACCORDANCE WITH UNITIL REQUIREMENTS.

Unitil

LANDSCAPE LEGEND

SYMBOL	QTY	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS
	2	MYRICA PENSYLVANICA / NORTHERN BAYBERRY	5' TO 6'	B&B

***SEE DETAIL SHEET FOR LANDSCAPE NOTES**

TABULATIONS

	EXISTING	PROPOSED
GROSS ACREAGE	12,489 S.F.±	12,489 S.F.±
GROUND COVERAGE OF BUILDINGS & STRUCTURES (SF & %)	N/A	N/A
IMPERVIOUS SURFACE COVERAGE	2,359 S.F.±	7,326 S.F.±
NET LAND AREA CALCULATIONS		
MIN. LOT SIZE	12,489 SF	12,489 SF
BUILDABLE LAND	12,489 SF	12,489 SF
MIN. FRONTAGE	232 FT	232 FT
MIN YARD SETBACKS		
FRONT	N/A	N/A
REAR	N/A	N/A
SIDE	N/A	N/A
LOT COVERAGE	36%	75%
MAX. HEIGHT	N/A	N/A
WETLAND BUFFER	20'	20'
SF OF YARD AREA BY USE		
SUBSTATION	2,359 SF	7,326 SF

HORIZONTAL SCALE 1"=20'
20 10 0 20

STATE OF NEW HAMPSHIRE
NICHOLAS C. GOLON
No. 14086
LICENSED
PROFESSIONAL ENGINEER
9/18/19

SITE DEVELOPMENT PLANS

TAX MAP 27, BLOCK A1, LOT 8

SITE LAYOUT & LANDSCAPE PLAN

GULF STREET SUBSTATION

5 GULF STREET, CONCORD, NH

OWNED BY/PREPARED FOR

UNITIL ENERGY SYSTEMS, INC.
6 LIBERTY LANE, HAMPTON, NH

SCALE: 1"=20' (22"X34") **SEPTEMBER 18, 2019**

REV.	DATE	DESCRIPTION	DR	CK

APPROVED
UNDER THE PROVISIONS OF R.S.A. 674:35 & R.S.A. 674:36
CITY PLANNING BOARD
CITY OF CONCORD, NEW HAMPSHIRE
In accordance with vote of the board dated:

Approval of this plan is limited to the lots as shown

Chair Clerk

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FILE	95945-01	DR	XXX	FB	-	C-05
		CK	XXX	CADFILE	95945-01 DESIGN_LAYOUT - SS	

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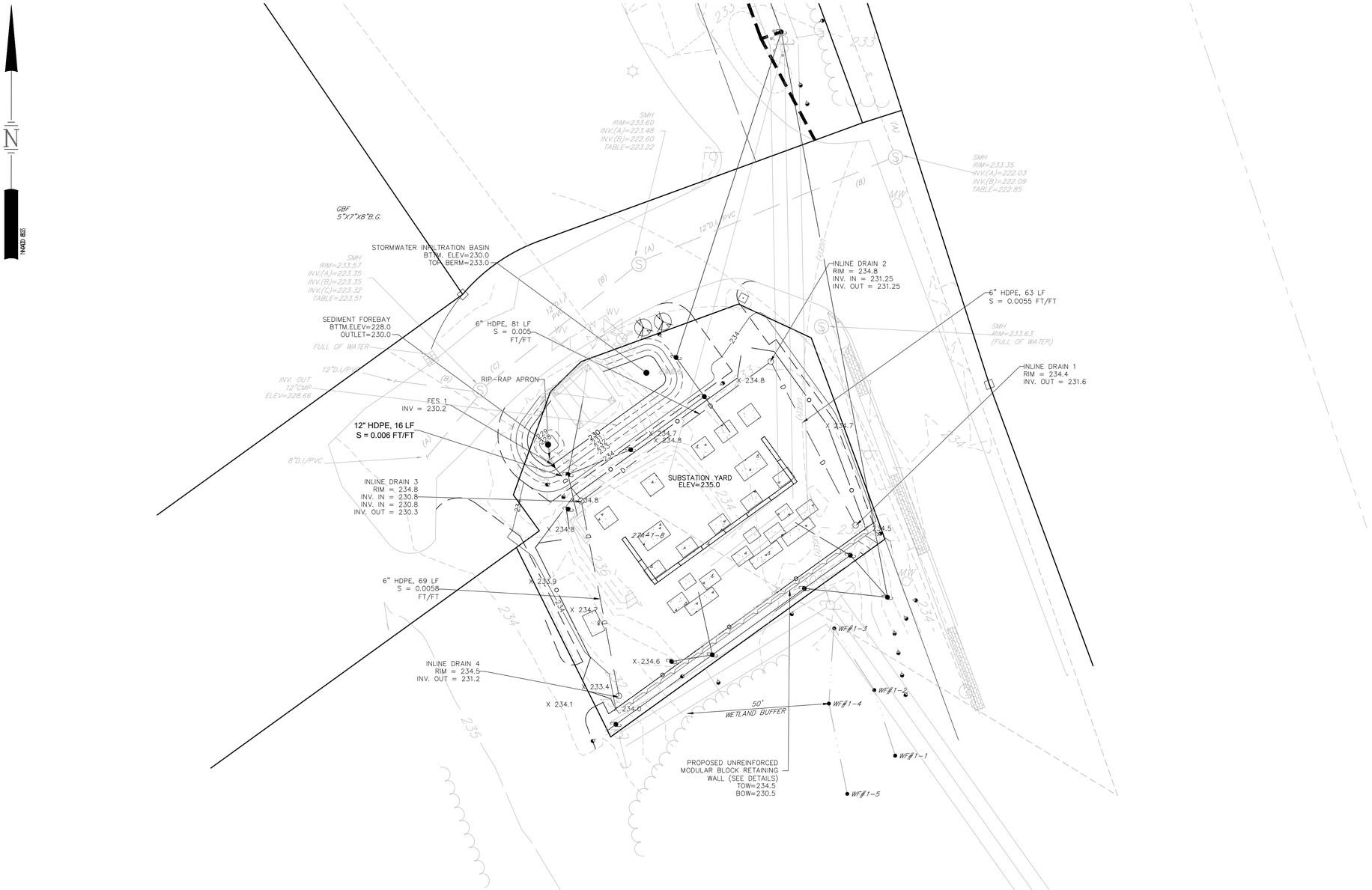

NOTES

1. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE CITY OF CONCORD, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE SITE AND ALL SURROUNDING CONDITIONS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT "DIGSAFE" (811) AT LEAST 72 HOURS BEFORE DIGGING.
4. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE AS NECESSARY WITH THE UTILITY COMPANIES OF SAID UTILITIES. THE PROTECTION OR RELOCATION OF UTILITIES IS ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR.
5. THE CONTRACTOR SHALL COORDINATE MATERIALS AND INSTALLATION SPECIFICATIONS WITH THE INDIVIDUAL UTILITY AGENCIES/COMPANIES, AND ARRANGE FOR ALL INSPECTIONS.
6. ROAD AND DRAINAGE CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET LOCAL STANDARDS AND THE REQUIREMENTS OF THE LATEST NHDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGE CONSTRUCTION AND THE NHDOT STANDARD STRUCTURE DRAWINGS UNLESS OTHERWISE NOTED.
7. STORM DRAINAGE SYSTEM SHALL BE CONSTRUCTED TO LINE AND GRADE AS SHOWN ON THE PLANS. CONSTRUCTION METHODS SHALL CONFORM TO NHDOT STANDARD SPECIFICATIONS, SECTION 603. CATCH BASINS AND DRAIN MANHOLES SHALL CONFORM TO SECTION 604. ALL CATCH BASIN GRATES SHALL BE TYPE B AND CONFORM TO NHDOT STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
8. ALL MANHOLES IN PAVEMENT SHALL HAVE RIMS SET TO FINISH GRADE REGARDLESS OF ANY ELEVATIONS OTHERWISE SHOWN.
9. ALL ELEVATIONS SHOWN AT CURB ARE TO THE BOTTOM OF CURB UNLESS OTHERWISE NOTED. CURBS HAVE A 6" REVEAL UNLESS OTHERWISE NOTED.
10. ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS IN THE IMMEDIATE AREA.
11. THE EROSION CONTROL PRACTICES SHOWN ON THESE PLANS ARE ILLUSTRATIVE ONLY AND SHALL BE SUPPLEMENTED BY THE SITE CONTRACTOR AS NEEDED.
12. COORDINATE WITH ELECTRICAL PLANS FOR DETAILED GRADING AT FOUNDATIONS, AND SIZE AND LOCATION OF ALL SERVICES.
13. COORDINATE WITH GEOTECHNICAL/STRUCTURAL PLANS FOR SITE PREPARATION AND FOUNDATION INFORMATION.
14. LIMITS OF WORK ARE SHOWN AS APPROXIMATE. THE CONTRACTOR SHALL COORDINATE ALL WORK TO PROVIDE SMOOTH TRANSITIONS. THIS INCLUDES GRADING, PAVEMENT, CURBING, SIDEWALKS AND ALIGNMENTS.
15. THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR INFORMATION ABOUT GROUNDWATER CONDITIONS. THE CONTRACTOR SHALL FOLLOW THE GEOTECHNICAL ENGINEERS RECOMMENDED METHODS TO ADDRESS ANY GROUNDWATER ISSUES THAT ARE FOUND ON SITE.
16. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR THE CONDITIONS AT THE SITE. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND REPORT DISCREPANCIES TO THE ENGINEER.
17. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK THE ACCURACY OF THE TOPOGRAPHY AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO ANY EARTHWORK BEING PERFORMED ON THE SITE. NO CLAIM FOR EXTRA WORK WILL BE CONSIDERED FOR PAYMENT AFTER EARTHWORK HAS COMMENCED.
18. VERIFY TBM ELEVATIONS PRIOR TO CONSTRUCTION.
19. IN THE EVENT OF A CONFLICT BETWEEN PLANS, SPECIFICATIONS, AND DETAILS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.
20. IF CONDITIONS AT THE SITE ARE DIFFERENT THAN SHOWN THE ENGINEER SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH THE AFFECTED WORK.
21. THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. TFMORAN INC. ASSUMES NO LIABILITY AS A RESULT OF ANY CHANGES OR NON-CONFORMANCE WITH THESE PLANS EXCEPT UPON THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD.
22. TFMORAN INC. ASSUMES NO LIABILITY FOR WORK PERFORMED WITHOUT AN ACCEPTABLE PROGRAM OF TESTING AND INSPECTION AS APPROVED BY THE ENGINEER OF RECORD.
23. THE SITE CONTRACTOR SHALL ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF NHDES ENV-WQ 1500 AS APPLICABLE.
24. IF ANY DEVIATIONS FROM THE APPROVED PLANS AND SPECIFICATIONS HAVE BEEN MADE, THE SITE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS STAMPED BY A LICENSED SURVEYOR OR QUALIFIED ENGINEER ALONG WITH A LETTER STAMPED BY A QUALIFIED ENGINEER DESCRIBING ALL SUCH DEVIATIONS, AND BEAR ALL COSTS FOR PREPARING AND FILING ANY NEW PERMITS OR PERMIT AMENDMENTS THAT MAY BE REQUIRED.

Unitil

SITE DEVELOPMENT PLANS

TAX MAP 27, BLOCK A1, LOT 8

GRADING & DRAINAGE & UTILITY PLAN

GULF STREET SUBSTATION

5 GULF STREET, CONCORD, NH

OWNED BY/PREPARED FOR

UNITIL ENERGY SYSTEMS, INC.

6 LIBERTY LANE, HAMPTON, NH

1"=40' (11"X17")

SCALE: 1"=20' (22"X34") **SEPTEMBER 18, 2019**

STATE OF NEW HAMPSHIRE
NICHOLAS C. GOLON
No. 14686
LICENSED
PROFESSIONAL ENGINEER
9/19/19

20 10 0 20
Graphic Scale

REV.	DATE	DESCRIPTION	DR	CK

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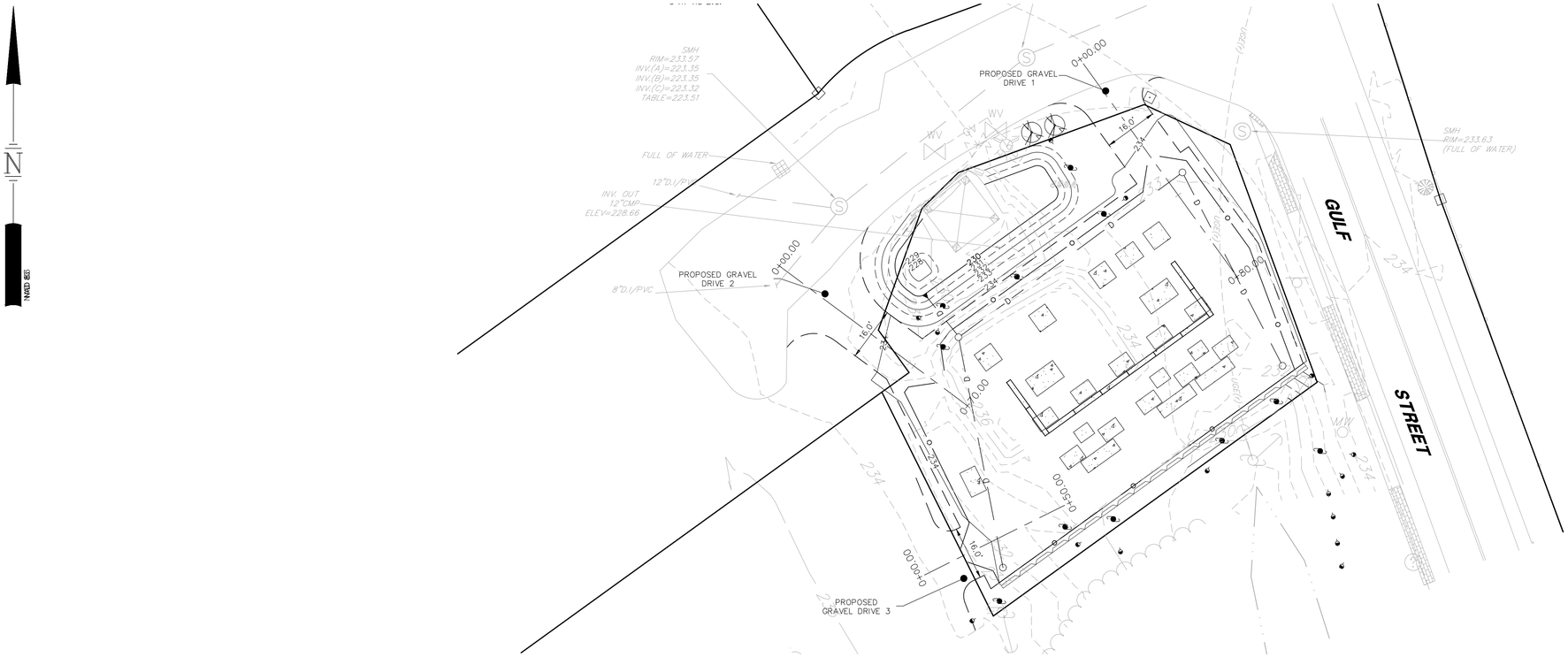

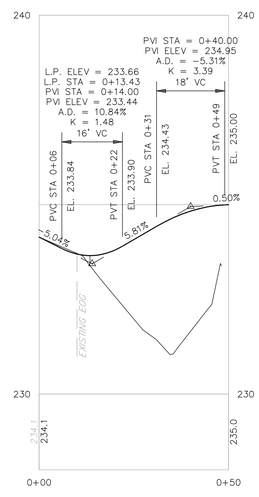

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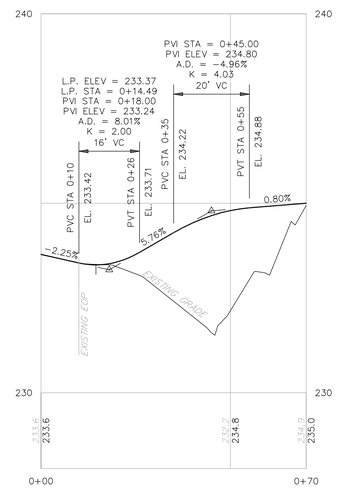

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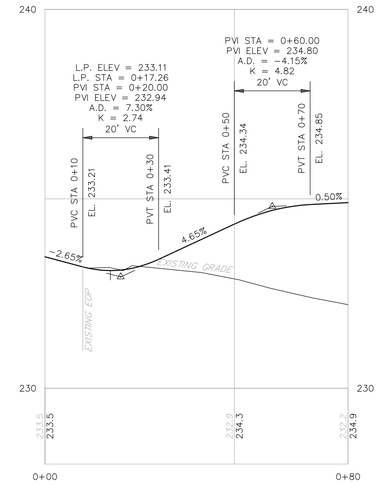

ALIGNMENT - DRIVE_1

STATE OF NEW HAMPSHIRE
NICHOLAS C. GOLON
No. 14086
LICENSED
PROFESSIONAL ENGINEER

Unitil

SITE DEVELOPMENT PLANS

TAX MAP 27, BLOCK A1, LOT 8

ACCESS DRIVES PLAN & PROFILE

GULF STREET SUBSTATION

5 GULF STREET, CONCORD, NH

OWNED BY/PREPARED FOR

UNITIL ENERGY SYSTEMS, INC.

6 LIBERTY LANE, HAMPTON, NH

SCALE: 1"=10' (22"X34") **SEPTEMBER 18, 2019**

HORIZONTAL SCALE 1"=20'
20 10 0 20
2 0 2
VERTICAL SCALE 1"=2'

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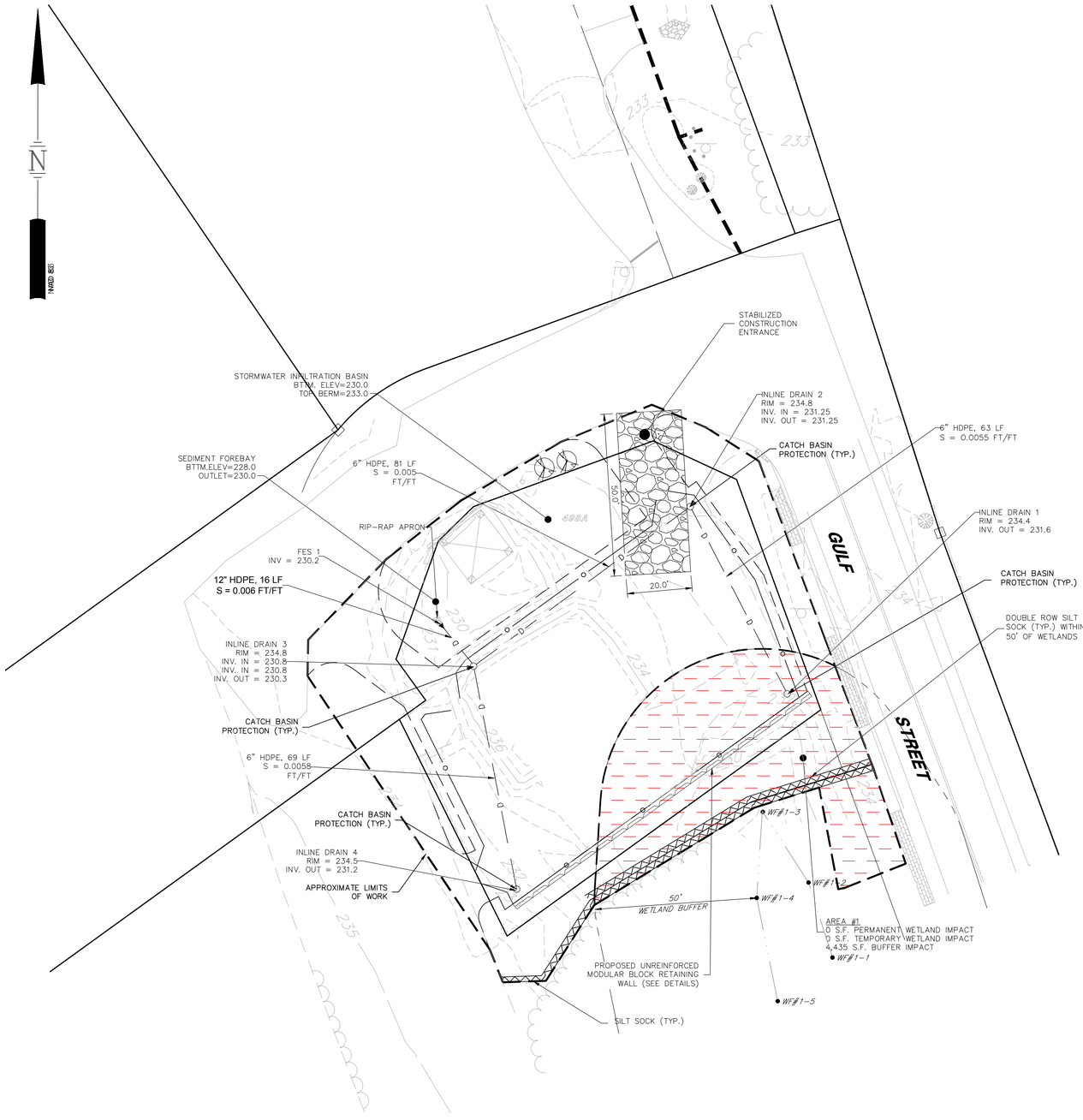

NOTES

1. IT IS BEING PROPOSED TO REBUILD THE EXISTING SUBSTATION

2. TOTAL SITE AREA: 0.28± AC
   TOTAL AREA OF DISTURBANCE: 0.43± AC (INCLUDES AREAS ASSOCIATED WITH ACCESS AND DRAINAGE IMPROVEMENTS.

3. SOILS SHOWN ARE FROM THE SOIL SURVEY OF MERRIMACK COUNTY, NH, EASTERN PART, PREPARED BY USDA-SOIL CONSERVATION SERVICES.
   498A URBAN LAND – POOTATUCK COMPLEX 0–3%, HSG B

4. STORM WATER DRAINAGE SYSTEM IS SHOWN ON THE PLAN. SEE GRADING & DRAINAGE PLAN FOR RIM, INVERT, PIPE LENGTH, AND SLOPE INFORMATION.
   POST-CONSTRUCTION RUNOFF COEFFICIENT: C=0.86
   IMPERVIOUS SURFACE AREA: 0.05± AC

5. STABILIZATION PRACTICES FOR EROSION AND SEDIMENTATION CONTROLS:

   TEMPORARY STABILIZATION – TOPSOIL STOCKPILES AND DISTURBED AREAS OF THE CONSTRUCTION SITE THAT WILL NOT BE REDISTURBED FOR 14 DAYS OR MORE MUST BE STABILIZED BY THE 14TH DAY AFTER THE LAST DISTURBANCE. THE TEMPORARY SEED SHALL BE ANNUAL RYE APPLIED AT THE RATE OF 1.1 LBS PER 1,000 SF. PRIOR TO SEEDING, A MINIMUM OF 2 TONS PER ACRE OF AGRICULTURAL LIMESTONE AND 500 LBS PER ACRE OF 10-20-20 FERTILIZER SHALL BE APPLIED. AFTER SEEDING, EACH AREA SHALL BE MULCHED WITH 1.5 TONS PER ACRE OF HAY MULCH. MULCH TO BE ANCHORED IN PLACE WHERE NECESSARY. AREAS OF THE SITE THAT WILL BE PAVED WILL BE TEMPORARILY STABILIZED BY APPLYING GEOTEXTILES AND A STONE SUB-BASE UNTIL BITUMINOUS PAVEMENT CAN BE APPLIED. CALCIUM CHLORIDE SHALL BE USED FOR DUST CONTROL IF NEEDED.

   PERMANENT STABILIZATION – DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES PERMANENTLY CEASES SHALL BE STABILIZED WITH PERMANENT SEED NO LATER THAN 3 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY. THE PERMANENT SEED MIX SHALL CONSIST OF 0.45 LBS/1,000 SF TALL FESCUE, 0.20 LBS/1,000 SF CREEPING RED FESCUE, AND 0.20 LBS/1,000 SF BIRDSFOOT TREFOIL. PRIOR TO SEEDING, A MINIMUM OF 2 TONS PER ACRE OF AGRICULTURAL LIMESTONE AND 500 LBS PER ACRE IF 10-20-20 FERTILIZER SHALL BE APPLIED. AFTER SEEDING, EACH AREA SHALL BE MULCHED WITH 1.5 TONS PER ACRE OF HAY MULCH. MULCH TO BE ANCHORED IN PLACE WHERE NECESSARY.

6. STRUCTURAL PRACTICES FOR EROSION AND SEDIMENTATION CONTROL

   SILT SOCK – WILL BE CONSTRUCTED AROUND THE PERIMETER OF THE DISTURBED AREAS AND WILL DELINEATE THE LIMITS OF WORK FOR THE PROPOSED CONSTRUCTION. THE SILT SOCK WILL BE INSTALLED BY OTHERS. POSTS SHALL BE USED WITH AT LEAST 6" OF THE POST BURIED BELOW THE GROUND SURFACE TO PREVENT THE SILT SOCK FROM FORMING GAPS NEAR THE GROUND SURFACE. RUNOFF WILL FLOW THROUGH THE OPENINGS IN THE SILT SOCK WHILE RETAINING THE SEDIMENT WITHIN THE CONSTRUCTION AREA.

   SILT FENCE – WILL BE CONSTRUCTED AROUND THE PERIMETER OF THE DISTURBED AREAS AND WILL DELINEATE THE LIMITS OF WORK FOR THE PROPOSED CONSTRUCTION. THE SILT FENCE WILL BE INSTALLED BY STRETCHING REINFORCED FILTER FABRIC BETWEEN POSTS WITH AT LEAST 8" OF THE FABRIC BURIED BELOW THE GROUND SURFACE TO PREVENT GAPS FROM FORMING NEAR THE GROUND SURFACE. RUNOFF WILL FLOW THROUGH THE OPENINGS IN THE FILTER FABRIC WHILE RETAINING THE SEDIMENT WITHIN THE CONSTRUCTION AREA.

   STABILIZED CONSTRUCTION ENTRANCE – WILL BE INSTALLED IN ACCORDANCE WITH THE DETAIL AT THE ENTRANCE TO THE CONSTRUCTION SITE TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS OFF THE SITE. THE STABILIZED ENTRANCE WILL BE 20'-WIDE AND FLARE AT THE ENTRANCE TO THE PAVED ROAD AND HAVE A DEPTH OF 12" OF STONE. THE STABILIZED ENTRANCE SHALL BE MAINTAINED UNTIL THE REMAINDER OF THE CONSTRUCTION SITE HAS BEEN FULLY STABILIZED. THE PAVED STREET ADJACENT TO THE SITE SHALL BE SWEPT ON A WEEKLY BASIS TO REMOVE EXCESS MUD AND DIRT FROM BEING TRACKED FROM THE SITE. TRUCKS HAULING MATERIAL TO AND/OR FROM THE SITE SHALL BE COVERED WITH A TARPAULIN.

   CATCH BASINS – WILL BE CLEANED ON AN ANNUAL BASIS TO REMOVE ALL SEDIMENTS FROM THE CATCH BASIN SUMPS.

   CATCH BASIN PROTECTION – WILL BE INSTALLED AT ALL CATCH BASINS WITHIN THE CONSTRUCTION AREA. FILTER FABRIC WILL BE INSTALLED AROUND THE GRATES OF CATCH BASINS THAT ARE LOCATED IN THE TRAVEL WAY AND STONE/FILTER FABRIC PROTECTION WILL BE INSTALLED AT THE CATCH BASINS FOUND WITHIN THE PARKING AREA AND GRASS.

   BLANKET SLOPE PROTECTION – SHALL BE INSTALLED ON ALL 2:1 SLOPES OR STEEPER ON SITE. ANCHOR THE TOP OF THE BLANKET BY ANCHORING THE BLANKET IN A 6" DEEP TRENCH. BACKFILL AND COMPACT TRENCH AFTER STAPLING. ROLL THE BLANKET IN THE DIRECTION OF STORM WATER FLOW. WHERE 2 OR MORE STRIPS OF BLANKET ARE REQUIRED, A MINIMUM OF 4" OF OVERLAP SHALL BE PROVIDED.

   STONE CHECK DAMS – WILL BE INSTALLED IN EXISTING AND PROPOSED GRASS SWALES TO REDUCE THE VELOCITY OF CONCENTRATED STORM WATER FLOWS AND PREVENT EROSION OF THE SWALE.

7. STORM WATER MANAGEMENT

   STORMWATER DRAINAGE FOR THE SUBSTATION AREA WILL BE COLLECTED BY A CLOSED DRAINAGE SYSTEM. WHEN CONSTRUCTION IS COMPLETE, THE MAJORITY OF THE SITE WILL DRAIN INTO AN INFILTRATION BASIN.

8. ALL CONSTRUCTION DEBRIS AND WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURE DUMPSTERS OR APPROVED ENCLOSURE AND REMOVED FROM THE SITE ON A WEEKLY BASIS. NO CONSTRUCTION WASTE SHALL BE BURIED ON SITE. PORTABLE TOILET SANITARY WASTE FACILITIES WILL BE PROVIDED DURING CONSTRUCTION AND MAINTAINED/DISPOSED OF ON A REGULAR BASIS IN ACCORDANCE WITH TOWN AND STATE REGULATIONS.

9. THRUST BLOCK SHALL BE PROVIDED WHERE WATER LINE CHANGES DIRECTION OR TAPS INTO EXISTING WATER LINE.

10. A LIST OF CONSTRUCTION ITEMS AND OTHER PRODUCTS USED ON THIS PROJECT SHALL BE KEPT ON RECORD WITH THIS PLAN ONSITE. ALL CHEMICALS, PETROLEUM PRODUCTS AND OTHER MATERIALS USED DURING CONSTRUCTION SHALL BE STORED IN A SECURE AREA, AND PRECAUTIONS USED TO PREVENT POTENTIAL SOURCES OF CONTAMINATION OR POLLUTION. ANY SPILL OF THESE TYPES OF SUBSTANCES SHALL BE CLEANED UP AND DISPOSED OF IN A LEGAL MANNER AS SPECIFIED BY STATE REGULATIONS AND THE MANUFACTURER. ANY SPILL IN AMOUNTS EQUAL TO OR EXCEEDING REPORTABLE QUANTITY AS DEFINED BY THE EPA SHALL TAKE THE FOLLOWING STEPS:
    - NOTIFY THE NATIONAL RESPONSE CENTER IMMEDIATELY AT (888) 424-8802; IN WASHINGTON, D.C., CALL (202) 426-2675.
    - WITHIN 14 DAYS, SUBMIT A WRITTEN DESCRIPTION OF THE RELEASE TO THE EPA REGIONAL OFFICE PROVIDING THE DATE AND CIRCUMSTANCES OF THE RELEASE AND THE STEPS TO BE TAKEN TO PREVENT ANOTHER RELEASE.
    - MODIFY THE POLLUTION PREVENTION PLAN TO INCLUDE THE INFORMATION LISTED ABOVE.

    GOOD HOUSEKEEPING:
    THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.
    - AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB;
    - ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE;
    - PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL;
    - SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER;
    - WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER;
    - MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED;
    - TRASH DUMPSTERS SHALL BE GASKETED OR HAVE A SECURE WATERTIGHT LID AND BE PLACED AWAY FROM STORMWATER CONVEYANCES AND DRAINS.
    - THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ONSITE.

    HAZARDOUS PRODUCTS:
    THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
    - PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;
    - ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION;
    - IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

    PRODUCT SPECIFIC PRACTICES:
    THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ON SITE:

    PETROLEUM PRODUCTS:
    ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

    FERTILIZERS:
    FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

    PAINTS:
    ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

    CONCRETE TRUCKS:
    EXCESS CONCRETE SHALL BE USED IN AREAS DESIGNATED BY THE SITE CONTRACTOR. WASH WATER SHALL BE DISPOSED OF USING BEST MANAGEMENT PRACTICES. BUILDING CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL DRUM WASH WATER ASSOCIATED WITH CONCRETE FOR THE BUILDING PAD. SITE CONTRACTOR TO COORDINATE AND PROVIDE BUILDING CONTRACTOR WITH AN AREA FOR DRUM WASH WATER.

    SPILL CONTROL PRACTICES:
    IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
    - MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
    - MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
    - ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
    - THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
    - SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF SIZE.
    - THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.
    - THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. THEY WILL DESIGNATE AT LEAST THREE OTHER SITE PERSONNEL WHO WILL EACH RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IN THE OFFICE TRAILER ONSITE.

11. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN RECORDS OF CONSTRUCTION ACTIVITIES, INCLUDING DATES OF MAJOR GRADING ACTIVITIES, DATES WHEN CONSTRUCTION ACTIVITIES HAVE TEMPORARILY CEASED ON A PORTION OF THE SITE, DATES WHEN WORK IS COMPLETED ON A PORTION OF THE SITE, AND DATES WHEN STABILIZATION MEASURES ARE INITIATED ONSITE.

12. THE CONTRACTOR SHALL PERFORM INSPECTIONS OR HAVE A CONSULTING ENGINEER PERFORM INSPECTIONS EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS AFTER A STORM OF 0.5" OR GREATER. INSPECTIONS REPORTS ARE TO BE KEPT ON FILE AT THE SITE WITH THIS PLAN. MAINTENANCE OR MODIFICATION SHALL BE IMPLEMENTED AND ADDED TO THE PLAN AS RECOMMENDED BY THE QUALIFIED INSPECTOR.

STATE OF NEW HAMPSHIRE
NICHOLAS C. GOLON
No. 14086
LICENSED
PROFESSIONAL ENGINEER
9/18/19

Unitil

SITE DEVELOPMENT PLANS

TAX MAP 27, BLOCK A1, LOT 8

STORMWATER MANAGEMENT PLAN

GULF STREET SUBSTATION

5 GULF STREET, CONCORD, NH

OWNED BY/PREPARED FOR

UNITIL ENERGY SYSTEMS, INC.
6 LIBERTY LANE, HAMPTON, NH

SCALE: 1"=20' (22"X34") **SEPTEMBER 18, 2019**

HORIZONTAL SCALE 1"=20'
20 10 0 20

REV.	DATE	DESCRIPTION	DR	CK

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Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
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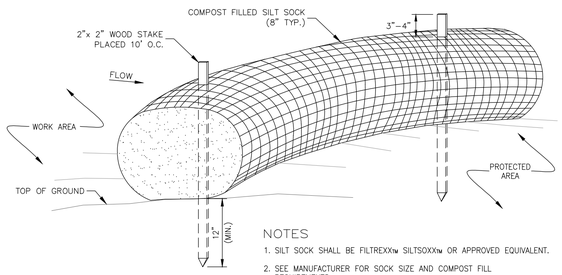
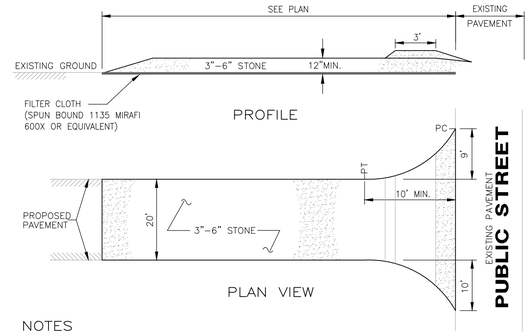


NOTES

1. SILT SOCK SHALL BE FILTREXXw SILTSOXXw OR APPROVED EQUIVALENT.
2. SEE MANUFACTURER FOR SOCK SIZE AND COMPOST FILL REQUIREMENTS.
3. SILT SOCK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED AS NEEDED.
4. COMPOST MATERIAL SHALL BE DISPERSED ON SITE, AS DETERMINED BY THE ENGINEER.

SILT SOCK

NOT TO SCALE



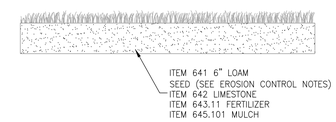
NOTES

1. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE SURFACE.
2. WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
3. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
4. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
5. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN STORM EVENT.

USDA - SCS STABILIZED CONSTRUCTION ENTRANCE

SEE PLAN FOR PROPOSED LOCATION

NOT TO SCALE



LOAM & SEED DETAIL

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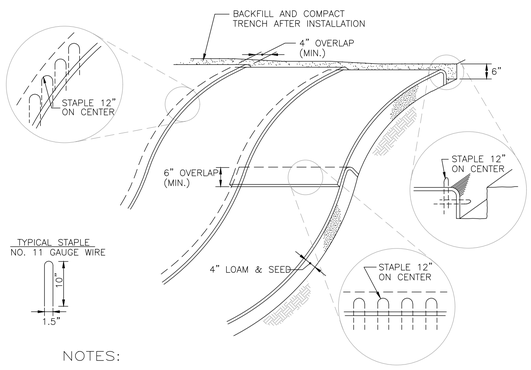

NOTES:

1. BEGIN AT THE TOP OF BLANKET INSTALLATION AREA BY ANCHORING BLANKET IN A 6" DEEP TRENCH. BACKFILL AND COMPACT TRENCH AFTER STAPLING.
2. ROLL THE BLANKET DOWN THE SWALE IN THE DIRECTION OF THE WATER FLOW.
3. THE EDGES OF BLANKETS MUST BE STAPLED WITH APPROX. 4 INCH OVERLAP WHERE 2 OR MORE STRIP WIDTHS ARE REQUIRED.
4. WHEN BLANKETS MUST BE SPLICED DOWN THE SWALE, PLACE BLANKET END OVER END WITH 6 INCH (MIN.) OVERLAP AND ANCHOR DOWN SLOPE BLANKET IN A 6 INCH DEEP TRENCH.
5. BLANKET SHALL BE NORTH AMERICAN GREEN SC-150 OR APPROVED EQUAL.

BLANKET SLOPE PROTECTION

EROSION CONTROL FOR SLOPE GREATER THAN 5' IN HEIGHT

NOT TO SCALE

Unitil

SITE DEVELOPMENT PLANS

TAX MAP 27, BLOCK A1, LOT 8

DETAIL

GULF STREET SUBSTATION

5 GULF STREET, CONCORD, NH

OWNED BY/PREPARED FOR

UNITIL ENERGY SYSTEMS, INC.

6 LIBERTY LANE, HAMPTON, NH

SCALE: NTS **SEPTEMBER 18, 2019**

STATE OF NEW HAMPSHIRE
NICHOLAS C. GOLON
No. 14086
LICENSED
PROFESSIONAL ENGINEER
9/18/19

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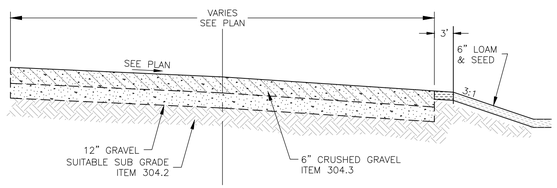
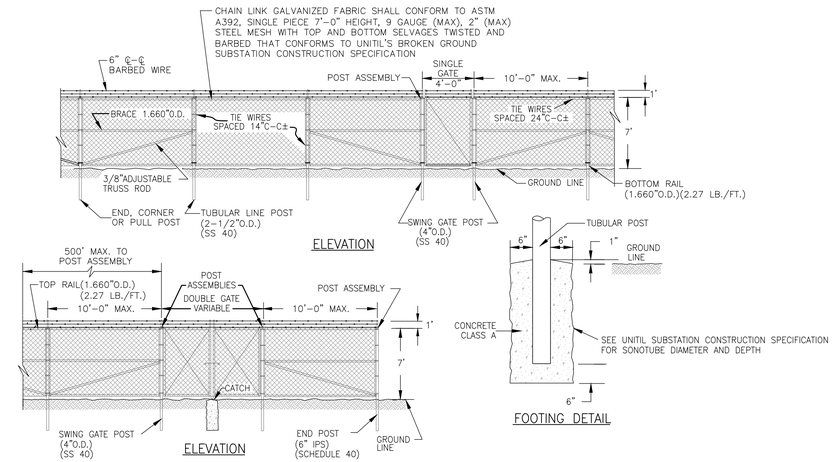


TYPICAL DRIVEWAY CROSS SECTION

NOT TO SCALE



SECURITY FENCE DETAIL

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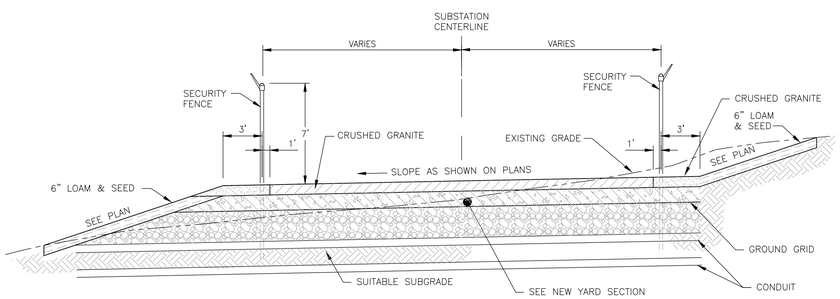
NOTES:

1. ALL END POSTS SHALL HAVE ONE BRACE ALL CORNER AND INTERMEDIATE BRACE OR PULL POSTS SHALL HAVE TWO BRACES, WITH A MAXIMUM SPACING OF BETWEEN POST ASSEMBLIES OF 500 FEET.
2. ALL TIE WIRES SHALL BE 9 GAUGE GALVANIZED STEEL "EASY TWIST TIES".
3. TWO INCH MAX SEPARATION TO GROUND FROM BOTTOM RAIL.
4. FENCE INSTALLATION SHALL CONFORM TO UNITIL'S GULF STREET SUBSTATION CONSTRUCTION SPECIFICATION.



TYPICAL SUBSTATION CROSS SECTION

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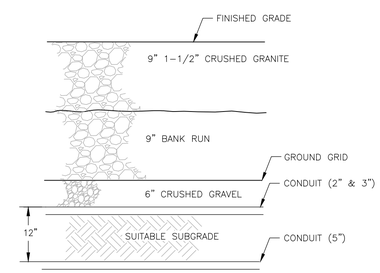

TYPICAL NEW YARD AREA SECTION

NOTE:

1. FINAL MATERIAL SELECTION IS TO BE COORDINATED WITH THE OWNER.
2. CONTRACTOR TO COORDINATE LOCATION OF GROUNDING GRID WITH UNITIL.
3. SAMPLE OF CRUSHED GRANITE SHALL BE PROVIDED BY CONTRACTOR. UNITIL WILL HAVE SAMPLE TESTED TO VERIFY RESISTANCE MEETS SPECIFICATIONS PRIOR TO DELIVERY & INSTALLATION.

STATE OF NEW HAMPSHIRE
NICHOLAS C. GOLON
NO. 14086
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PROFESSIONAL ENGINEER
9/18/19

Unitil

SITE DEVELOPMENT PLANS

TAX MAP 27, BLOCK A1, LOT 8

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SCALE: **SEPTEMBER 18, 2019**

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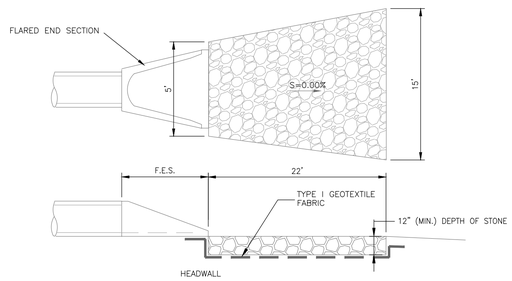


CONSTRUCTION SPECIFICATIONS:

1. THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIP-RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK USED FOR RIP-RAP SHALL CONFORM TO NHDOT CLASS C STONE. D50 = 6"
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP-RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
4. STONE FOR THE RIP-RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

OUTLET APRON

FES 6 NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

PREPARE BEDDING:

BACKFILL MATERIAL AROUND THE END SECTION MAY BE THE SAME AS THE MATERIAL AROUND THE PIPE, PLACE A FEW INCHES OF BACKFILL MATERIAL IN THE TRENCH OR DITCH WHERE THE END SECTION WILL BE PLACED. COMPACT AND CONTOUR THIS BEDDING MATERIAL TO GENERALLY MATCH THE END SECTION, EXCAVATE AN AREA IN THE BEDDING WHERE TOE TROUGH WILL SEAT SO THAT THE END SECTION WILL BE LEVEL WITH THE BOTTOM OF THE TRENCH OR DITCH IN THE FINISHED INSTALLATION.

PLACE END SECTION OF PIPE:

OPEN THE END SECTION COLLAR AND SEAT IT OVER THE TWO PIPE CONNECTIONS. ONCE THE END SECTION IS POSITIONED, CHECK TO MAKE SURE THAT THE INVERT OF THE END SECTION MATCHES THE INVERT OF THE PIPE AND THAT THE END SECTION IS LEVEL WITH THE TRENCH OR DITCH BOTTOM.

SECURE THE END SECTION:

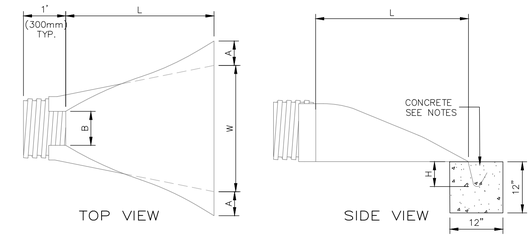
SLIP THE STAINLESS STEEL ROD THROUGH THE PRE-DRILLED HOLES AT THE TOP OF THE COLLAR. THE ROD SHOULD BE BETWEEN THE CROWNS OF THE TWO PIPE CONNECTIONS. PLACE A WASHER ON EITHER END OF THE ROD. PLACE A NUT ON EITHER END OF THE ROD AND TIGHTEN WITH A WRENCH.

SECURE THE TOE TROUGH:

TO PREVENT WASHOUTS FROM HIGH VELOCITY FLOW, IT IS RECOMMENDED THAT THE TROUGH BE SECURED WITH CONCRETE. POUR CONCRETE IN THE TROUGH UP TO THE LEVEL OF THE TRENCH OR DITCH BOTTOM AND ALONG THE ENTIRE LENGTH OF THE TROUGH.

FINISH BACKFILL:

SHOVEL BACKFILL AROUND THE END SECTION IN 6 TO 9 INCH LAYERS EQUALLY ON BOTH SIDES, KNIFING IT TO ELIMINATE VOIDS. TAMP WITH A SMALL-FACED COMPACTOR OR OTHER EQUIPMENT SUITABLE FOR SMALL AREAS. CONTINUE PLACING, KNIFING, AND COMPACTING BACKFILL LAYERS TO THE TOP OF THE END SECTION TO SEAT IT WELL INTO THE BACKFILL.

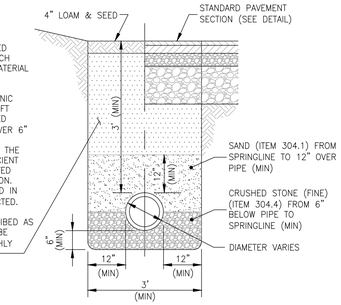


	DIMENSIONS, INCHES (mm)					
PIPE DIAMETER	PART NO.	A, ±1 (25)	B MAX	H, ±1 (25)	L, ±1/2 (13)	W, ±2 (50)
12", 15" (300,375)	1210 NP	6.5 (165)	10 (254)	6.5 (165)	25 (635)	29 (736)
18" (450)	1810 NP	7.5 (190)	15 (380)	6.5 (168)	32 (812)	35 (890)
24" (600)	2410 NP	7.5 (190)	18 (450)	6.5 (165)	36 (900)	45 (1140)
30" (750)	3010 NP	10.5 (266)	NA	7.0 (178)	53 (1346)	68 (1725)
36" (900)	3610 NP	10.5 (266)	NA	7.0 (178)	53 (1346)	68 (1725)

FLARED END SECTION

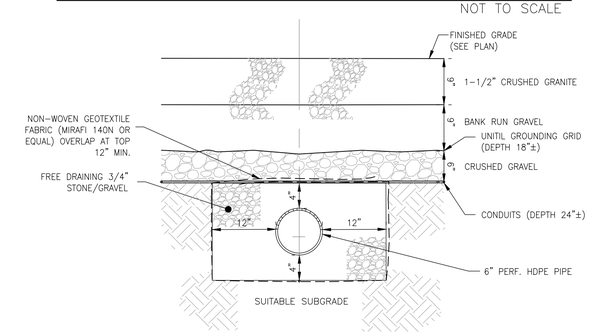
HIGH DENSITY POLYETHYLENE (HDPE) NOT TO SCALE

SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER 6" IN THE LARGEST DIMENSION, OR ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. SUITABLE MATERIAL SHALL BE PLACED IN 12" LIFTS AND THOROUGHLY COMPACTED. IN CROSS COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE DESCRIBED AS ABOVE. SUITABLE MATERIAL SHALL BE PLACED IN 18" LIFTS AND THOROUGHLY COMPACTED



STORM DRAIN TRENCH

NOT TO SCALE

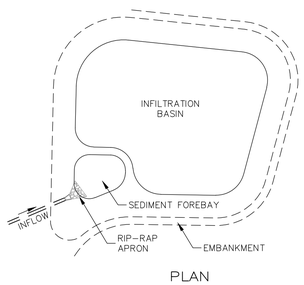


UNDER DRAIN TRENCH

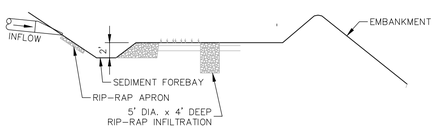
NOT TO SCALE

NOTES

1. THE INSTALLER SHALL NOT ALLOW ANY VEHICULAR OR CONSTRUCTION EQUIPMENT TRAVEL TO OCCUR ACROSS THE PROPOSED RECHARGE BASIN AREA AT ANY TIME EXCEPT DURING EXCAVATION OF TOPSOIL, SUBSOIL AND OTHER MATERIALS NOT SUITABLE FOR BED BOTTOM CONDITIONS.
2. CAUTION SHOULD BE EXERCISED DURING SITE PREPARATION TO AVOID COMPACTION OF THE INFILTRATIVE SURFACE.
3. SEED MIX
NEW ENGLAND ROADSIDE MATRIX WET MEADOW SEED MIX (MIN. 35 LBS/ACRE)



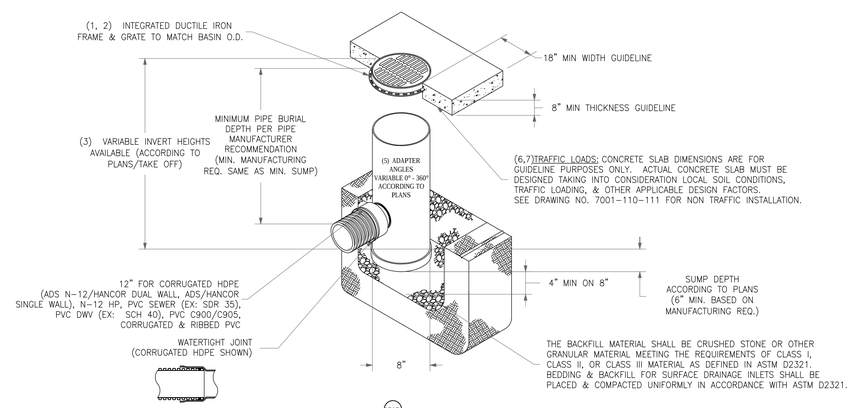
PLAN



PROFILE

INFILTRATION BASIN

NOT TO SCALE



ADS DRAIN BASIN

IN-LINE DRAIN NOT TO SCALE

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TAX MAP 27, BLOCK A1, LOT 8

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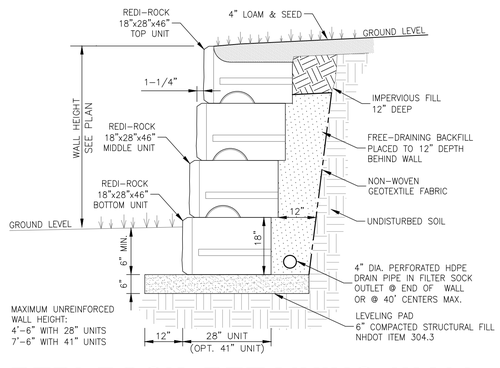

REDI-ROCK RETAINING WALL

UNREINFORCED — NOT TO SCALE

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UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

STATE OF NEW HAMPSHIRE
NICHOLAS C. GOLON
NO. 14086
LICENSED
PROFESSIONAL ENGINEER
9/18/19

REV.	DATE	DESCRIPTION	DR	CK

Unitil

SITE DEVELOPMENT PLANS

TAX MAP 27, BLOCK A1, LOT 8

DETAIL

GULF STREET SUBSTATION

5 GULF STREET, CONCORD, NH

OWNED BY/PREPARED FOR

UNITIL ENERGY SYSTEMS, INC.
6 LIBERTY LANE, HAMPTON, NH

SCALE: **SEPTEMBER 18, 2019**

TFM®
Civil Engineers
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48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

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95945-01	CK	NG	CADFILE	95945-01 DESIGN_LAYOUT - SS	C-12

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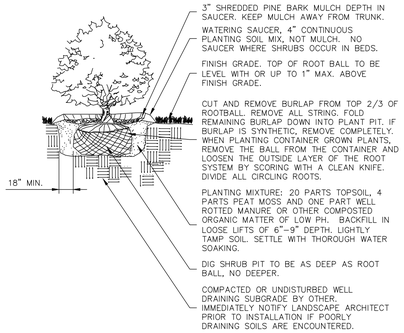
NOTE:

1. DO NOT PLANT ROOTBALL DIRECTLY ON TOP OF LEDGE OR BLASTED LEDGE IF ENCOUNTERED. ON LEDGE PROVIDE 12" MIN. OF PLTG. SOIL MIX. ON BLASTED LEDGE PROVIDE 3" CHOKER COURSE AND 9" MIN. PLTG. SOIL MIX.



SHRUB PLANTING

NOT TO SCALE

LANDSCAPE NOTES

GENERAL

1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE RULES, REGULATIONS, LAWS, AND ORDINANCES HAVING JURISDICTION OVER THIS PROJECT SITE.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND NOTIFY OWNER'S REPRESENTATIVE OF CONFLICTS.
3. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON PLANS BEFORE PRICING THE WORK. ANY DIFFERENCE IN QUANTITIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR CLARIFICATION. LANDSCAPE QUANTITIES SHOWN ON THE PLAN SHALL SUPERCEDE QUANTITIES LISTED IN LANDSCAPE LEGEND.
4. THE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT PRIOR TO STARTING WORK AND VERIFY THAT THE PLANS IN THE CONTRACTOR'S POSSESSION ARE THE MOST CURRENT PLANS AVAILABLE AND ARE THE APPROVED PLAN SET FOR USE IN CONSTRUCTION.
5. ALL PLANT MATERIALS INSTALLED SHALL MEET OR EXCEED THE SPECIFICATIONS OF THE "AMERICAN STANDARDS FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
6. ALL PLANTS SHALL BE FIRST CLASS AND SHALL BE REPRESENTATIVE OF THEIR NORMAL SPECIES AND/OR VARIETIES. ALL PLANTS MUST HAVE GOOD, HEALTHY, WELL-FORMED UPPER GROWTH AND A LARGE, FIBEROUS, COMPACT ROOT SYSTEM.
7. ALL PLANTS SHALL BE FREE FROM DISEASE AND INSECT PESTS AND SHALL COMPLY WITH ALL APPLICABLE STATE AND FEDERAL LAWS PERTAINING TO PLANT DISEASES AND INFESTATIONS.
8. IF APPLICABLE, THE CONTRACTOR SHALL HAVE ALL FALL TRANSPLANTING HAZARD PLANTS DUG IN THE SPRING AND STORED FOR FALL PLANTING.
9. ALL INVASIVE PLANT SPECIES FROM THE "NEW HAMPSHIRE PROHIBITED INVASIVE PLANT SPECIES LIST", TO BE REMOVED SHALL BE DONE SO IN ACCORDANCE WITH THE "INVASIVE SPECIES ACT, HB 1258-FN."

GUARANTEE

THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL LANDSCAPE WORK FOR A PERIOD OF ONE YEAR, BEGINNING AT THE START OF THE MAINTENANCE PERIOD.

SITE AND SOIL PREPARATION

1. WHEN CONDITIONS DETRIMENTAL TO PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, ADVERSE DRAINAGE CONDITIONS, OR LEDGE, NOTIFY LANDSCAPE ARCHITECT/ENGINEER BEFORE PLANTING.
2. ALL DISTURBED AREAS & PLANTING AREAS, INCLUDING AREAS TO BE SODDED, SHALL RECEIVE THE FOLLOWING SOIL PREPARATION PRIOR TO PLANTING: A MINIMUM OF 6 INCHES OF LIGHTLY COMPACTED TOPSOIL SHALL BE INSTALLED OVER THE SUBSOIL IF TOPSOIL HAS BEEN REMOVED OR IS NOT PRESENT.
3. LOAM SHALL CONSIST OF LOOSE FRIABLE TOPSOIL WITH NO ADMIXTURE OF REFUSE OR MATERIAL TOXIC TO PLANT GROWTH. LOAM SHALL BE FREE FROM STONES, LUMPS, STUMPS, OR SIMILAR OBJECTS LARGER THAN TWO INCHES (2") IN GREATEST DIAMETER, SUBSOIL, ROOTS, AND WEEDS. THE MINIMUM AND MAXIMUM PH VALUE SHALL BE FROM 5.5 TO 7.0. LOAM SHALL CONTAIN A MINIMUM OF TWO PERCENT (2%) AND A MAXIMUM OF FIVE PERCENT (5%) ORGANIC MATTER AS DETERMINED BY LOSS BY IGNITION. SOIL TEXTURE SHALL BE SANDY CLAY LOAM OR SANDY LOAM WITH CLAY CONTENT BETWEEN 15 AND 25%, AND A COMBINED CLAY/SILT CONTENT OF NO MORE THAN 55%. NOT MORE THAN SIXTY-FIVE PERCENT (65%) SHALL PASS A NO. 200 SIEVE AS DETERMINED BY THE WASH TEST IN ACCORDANCE WITH ASTM D1140. IN NO INSTANCE SHALL MORE THAN 20% OF THAT MATERIAL PASSING THE #4 SIEVE CONSIST OF CLAY SIZE PARTICLES.
4. NATURAL TOPSOIL NOT CONFORMING TO THE PARAGRAPH ABOVE OR CONTAINING EXCESSIVE AMOUNTS OF CLAY OR SAND SHALL BE TREATED BY THE CONTRACTOR TO MEET THOSE REQUIREMENTS.
5. SUBMIT TEST RESULTS OBTAINED FROM SOURCE TO ENGINEER/LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL, PRIOR TO SPREADING OPERATIONS.
6. APPROVAL BY THE ENGINEER/LANDSCAPE ARCHITECT TO USE THE TOPSOIL WILL DEPEND UPON THE RESULTS OF THE SOIL TESTS.
7. THE BURDEN OF PROOF OF SOIL AMENDMENT INSTALLATION RESTS WITH THE CONTRACTOR. SOIL TESTS MAY BE REQUIRED AT THE CONTRACTOR'S EXPENSE IN ORDER TO CONFIRM AMENDMENT INSTALLATION.

SEEDING

1. ROUGH GRADING SHALL BE COMPLETED PRIOR TO THE START OF PLANTING IN ANY GIVEN AREA OF THE PROJECT SITE.
2. SEEDING SHALL BE DONE BETWEEN APRIL 1 TO JUNE 15 OR AUGUST 15 TO OCTOBER 15, EXCEPT FOR RESEEDING OF BARE SPOTS AND MAINTENANCE. ALL DISTURBED AREAS NOT COVERED BY BUILDINGS, PAVING OR AREAS THAT HAVE NOT BEEN OTHERWISE DEVELOPED SHALL BE SEEDED OR SODDED. SLOPES GREATER THAN 3:1 SHALL BE PROTECTED WITH AN EROSION CONTROL BLANKET. AFTER OCTOBER 15 DISTURBED SOILS SHALL BE PROTECTED IN ACCORDANCE WITH THE WINTER CONSTRUCTION NOTES.

   ACCEPTABLE SEED MIXES ARE AS FOLLOWS:

   PARK SEED MIX (NHDOT TYPE 44) MIN. 135 LBS/ACRE:
   33% CREEPING RED FESCUE (MIN. 45 LBS/ACRE)
   42% PERENNIAL RYEGRASS (MIN. 55 LBS/ACRE)
   21% KENTUCKY BLUEGRASS (MIN. 30 LBS/ACRE)
   4% REDTOP (MIN. 5 LBS/ACRE)
   SLOPE SEED (WF) (NHDOT TYPE 45) MIX 3:1 OR GREATER SLOPES (MIN. 105 LBS/ACRE):
   38% CREEPING RED FESCUE (MIN. 40 LBS/ACRE)
   32% PERENNIAL RYEGRASS (MIN. 35 LBS/ACRE)
   5% REDTOP (MIN. 5 LBS/ACRE)
   5% ALSIKE CLOVER (MIN. 5 LBS/ACRE)
   5% BIRDSFOOT TREFOIL (MIN. 5 LBS/ACRE)
   3% LANCE-LEAF COREOPSIS (MIN. 3 LBS/ACRE)
   3% OXEYE DAISY (MIN. 3 LBS/ACRE)
   3% BUTTERFLY WEED (MIN. 3 LBS/ACRE)
   3% BLACKEYED SUSAN (MIN. 3 LBS/ACRE)
   3% WILD LUPINE (MIN. 3 LBS/ACRE)

PLANTING

1. EXCAVATE PITS WITH VERTICAL SIDES AND WITH BOTTOM OF EXCAVATION SLIGHTLY RAISED AT CENTER TO PROVIDE PROPER DRAINAGE. LOOSEN HARD SUBSOIL IN BOTTOM OF EXCAVATION.
2. ANY LEDGE OR RUBBLE MATERIAL SHALL BE FRACTURED TO A DEPTH OF 3 FEET AND EXCAVATED TO A DEPTH OF 18 INCHES FOR SHRUB BEDS. THIS PROCEDURE SHALL BE HANDLED BY THE SITE CONTRACTOR. SITE TOPSOIL SHALL BE DEPOSITED IN ALL EXCAVATED POCKETS.
3. DISPOSE OF SUBSOIL REMOVED FROM PLANTING EXCAVATIONS. DO NOT MIX WITH PLANTING SOIL OR USE AS BACKFILL.
4. FILL EXCAVATIONS FOR SHRUBS WITH WATER AND ALLOW TO PERCOLATE OUT BEFORE PLANTING.
5. DISH TOP OF BACKFILL TO ALLOW FOR MULCH – PLANT SAUCERS SHALL BE AS SHOWN ON DETAIL SHEETS.
6. MULCH SHRUB BEDS. PROVIDE NOT LESS THAN 3" THICKNESS OF BARK MULCH, 3/8"-2" OF WIDTH, AND WORK INTO TOP OF BACKFILL. FINISH LEVEL WITH ADJACENT FINISH GRADES AS DIRECTED IN THE FIELD.
7. ALL PLANT MATERIALS SHALL HAVE DEAD OR DAMAGED BRANCHES REMOVED AT TIME OF PLANTING. ALL TAGS AND RIBBONS SHALL BE REMOVED AT THIS TIME.
8. THE CONTRACTOR SHALL REQUEST A FINAL OBSERVATION BY THE OWNER'S REPRESENTATIVE UPON COMPLETION OF INSTALLATION.

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